EDITORIAL

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NEWEST HEALTHCARE INDUSTRY TRENDS TO COMBAT COVID-19

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COVID-19 has an unprecedented impact not only on all facets of our life and healthcare but it brings to life new trends in healthcare industry. The combat with the pandemic has resulted in explosive development of new technologies entitled for disinfecting, limiting transmission, detecting disease spread, treatment protocols, patient management, and vaccination.

However, the pandemic revealed numerous flaws and deficits in the functioning of the healthcare system, such as logistics, work of outpatient facilities and digitalization. This caused delays in output of statistic data from hospitals (number of available beds, number of people who were vaccinated, infected, getting sick or tested). As a consequence of making ineffective decisions including the political ones, there was a lower confidence and uncertainty in the population.

The advancements in the healthcare industry encompass e-consultations, telemedicine, real-time diagnosis allow accessing digital therapeutics provided by immersion technology tools.

Introduction of genetic analysis, clinical data storage, big data & analytics, artificial intelligence, internet of medical things enable to utilize devices of remote monitoring in the mode of real time and to broaden the use of personalized medicine, to improve the control and planning, to make the health services faster, stronger and smarter.

These solutions enhance workflows and planning of staff scheduling, provide connected infrastructure, devices and systems to render prompt and addressed clinical services.

There are a number of priority issues in healthcare industry trends (1):

1. ARTIFICIAL INTELLIGENCE

replaces conventional labor-intensive and time-consuming processes in healthcare services with remotely accessible and real-time solutions for diagnosis, treatment, and disease prevention (1,2).

2. INTERNET OF MEDICAL THINGS (CIOMT)

Internet of Medical Things is the potential for the development of products requiring fewer personnel to provide modern healthcare services. According to Frost & Sullivan analysis, the global IoMT market was worth $22.5 billion in 2016; it is expected to reach $72.02 billion by 2021, at a compound annual growth rate of 26.2% (3).

Cognitive IoMT is a recent development, which integrates sensory information, automatic processing, and communication through networks for real-time diagnosis, monitoring, tracking, and disease control.

The use of such technologies provides more solutions on working with patients due to automatic disinfection, smart diagnosis, remote patient management etc employing fewer personnel (1).

3. TELEMEDICINE

Telemedicine reduces the load on medical facilities and without incurring any costs on the use of personal protective equipment. Telemedicine also aids to assist elderly people remotely, reduces bed space, and conserves clinical supplies. (1, 4)

4. BIG DATA & ANALYTICS

Big Data & Analytics provide tools and solutions for analyzing unstructured and huge volumes of medical data. This expands patient-based services and enables to detect diseases earlier better understanding disease mechanisms (5).

5. IMMERSIVE TECHNOLOGY

Immersive Technology can be used in different fields of medicine: and can be employed for therapy

and rehabilitation of psychiatric and physical disorders. It plays an important role in medical education. Immersive technology can be applied in invasive medicine, for example, for projection of patient information during surgical procedures and holographic images(1,6).

6. MOBILE HEALTH (MHEALTH)

Solutions provided by mHealth have had a decisive impact combating the spread of COVID-19 pandemic. It supported contact tracing, monitoring, quarantine control. It helped testing and distribution of relevant information (1,7).

7. 3D PRINTING

3D printing has becoming more common in the healthcare industry. It is widely used for printing lightweight prosthetics, bionics, and casts for fracture repair (8).

8. BLOCKCHAIN

Blockchain is used in many fields of healthcare services such as electronic medical records, remote patient monitoring, pharmaceutical supply chain, and health insurance claims. Blockchain is capable of tackling drug counterfeiting (9).

9. CLOUD COMPUTING

Cloud Computing enables doctors to have control over the treatment progress and logistics, to store and process data on medical services rendered with the use of telemedicine and remote monitoring. Cloud Computing provides streamlined data access, data backup and recovery, smart data potential, and data interoperability (10).

10. GENOMICS

Recently, significantly efforts have been made in developing genomics tools for different applications. Gene therapy and gene-based therapy solutions in clinical medicine and specialized care has solved problems that seemed unsolvable before (1).

These newest healthcare trends is only a part of the rigorous research that has been carried out in recent years. Nevertheless, a major prerequisite for developing new technologies in medicine is to accelerate the digital transformation in healthcare. It is of vital importance in the fight against COVID-19.

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